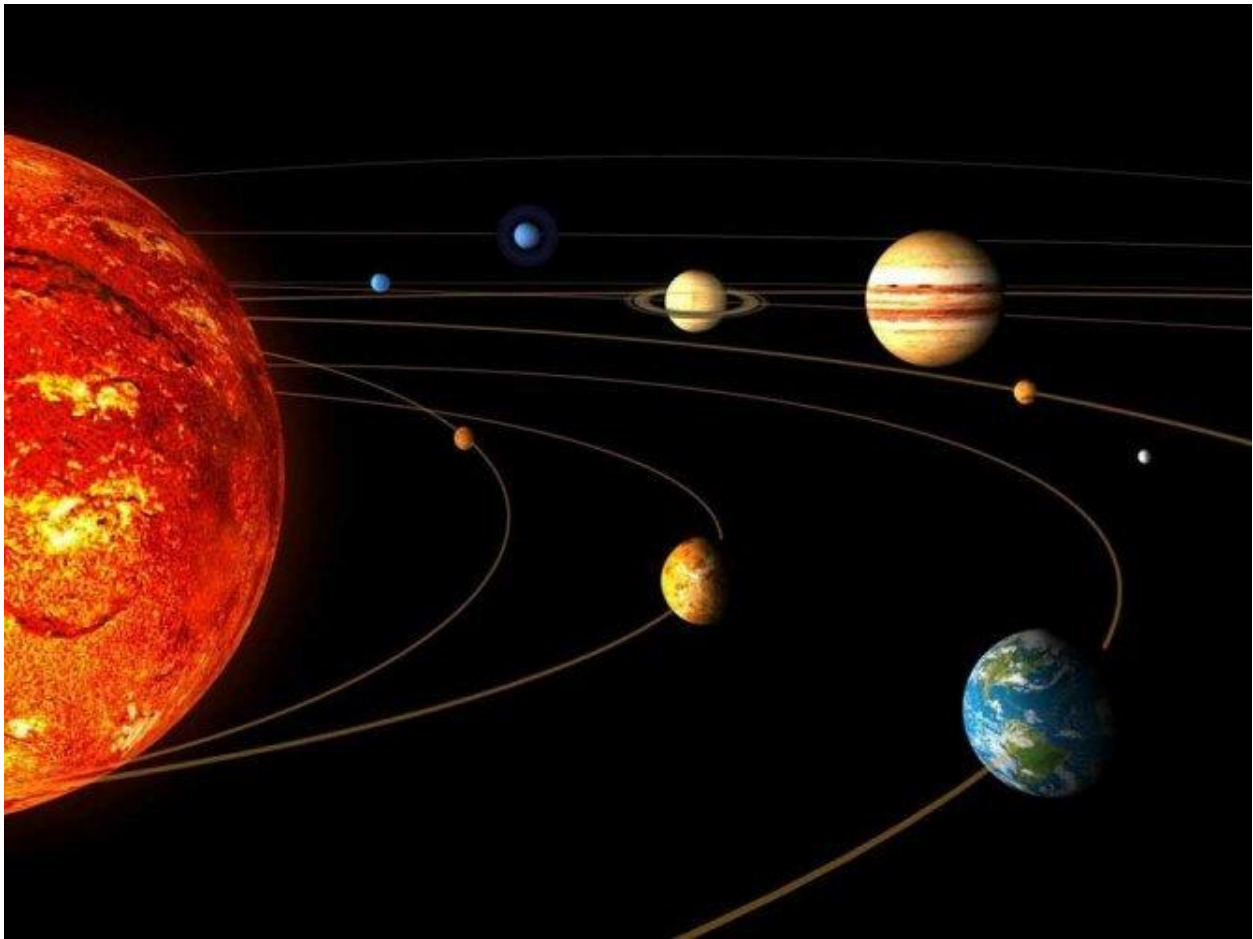


## 5 Missions in 5 yrs to study Solar System, Black holes

Deep Space beckons Kalyan Ray, DH News Service, New Delhi, JUL 19 2019, 18:52PM IST



Solar system (Image courtesy Twitter)

Moving beyond Chandrayaan-2, Indian Space Research Organisation plans to launch five astronomy missions in the next five years to explore the deep space. ISRO would send spacecraft to the Sun, Venus and Mars besides launching a unique probe to study cosmic monsters like Black Holes.

ISRO would send spacecraft to the Sun, Venus and Mars besides launching a unique probe to study cosmic monsters like Black Holes. In each case, key inputs on mission planning would come from India's second lunar venture involving an orbiter, a lander and a rover. Chandrayaan-2 is slated for launch on July 22

The next two deep space missions immediately after the lunar probe would be Aditya-L1 for studying the Sun and Xposat (X-ray Polarisation Satellite) that would seek to throw new light on mysterious celestial bodies like Black Hole and Neutron Stars.

Being developed by scientists at Raman Research Institute, Bengaluru, the Xposat will exploit a rather unusual technique called polarimetry to look at the universe.

The National Aeronautics and Space Administration, USA used such a technique way back in 1976 to carry out measurements on Crab Nebula.

“We wish to conduct our experiments within three years though the payload (named Polix) will be having a life of five years,” Biswajit Paul, RRI scientist and principal investigator of the project told DH.

Xposat would study neutron stars to know more about their behaviour besides turning its gaze on the accretion disc and corona of a black hole to find out answers to scientific queries pending for a long time.

Aditya-L1 too would be a path-breaking mission in which a 400 kg class satellite carrying the payload will be placed in an orbit around the Sun in such a way so that it can continuously view the star without any occultation or eclipses during which the Sun is hidden by other planetary bodies. The orbit would be located 1.5 million km away from the Earth.

The solar mission will seek to enhance the current understanding of the Solar Corona besides provide vital data for space weather studies.

“The Venus mission generated a lot of curiosity (17 Indian and 7 Indian proposals received so far) because barely anyone has plans to go to the second planet in the Solar system. The idea is to have an orbiter and a drone-like a probe that would be released from the spacecraft. We hope that the drone would send some information back before being burnt,” said Somak Raychaudhury, director of the Inter-University Centre for Astronomy and Astrophysics, Pune.

The second mission to the Mars is planned in 2024, though details are yet to frozen.

By 2024-25, the space agency plans to launch a pair of a satellite named DISHA (Disturbed and quite-type Ionosphere System at High Altitude) to have a better understanding of the interplay between the charged particles and cosmic rays at an altitude of 400-450 km.

Read more at: <https://www.deccanherald.com/national/5-missions-in-5-yrs-to-study-solar-system-black-holes-748212.html>